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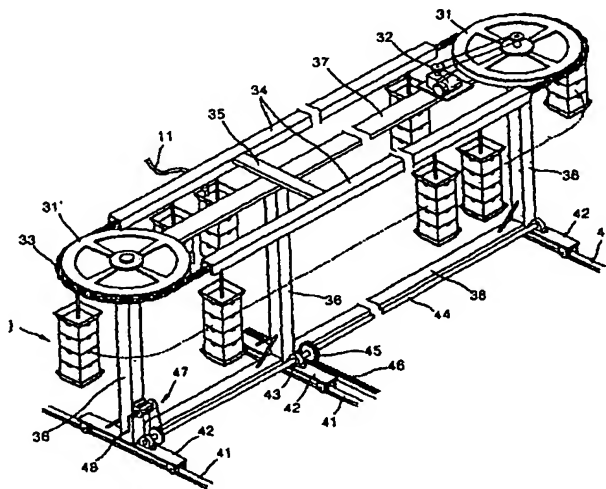
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(54) Title: HYDROPONIC DEVICE AND HYDROPONIC POT THEREOF



(57) Abstract: A nutriculture device and a stack-type nutriculture pot system for use in the nutriculture device are disclosed. The nutriculture device includes moving means for periodically moving a plurality of nutriculture pots, each having culture soil for supporting a crop, on a predetermined closed loop type moving track, a spray nozzle installed at a location on the moving track of the nutriculture pots, for supplying a nutrient solution to the nutriculture pot passing through the location, and a nutrient solution recovery channel for recovering the nutrient solution flowing from the nutriculture pot. Since the above-described nutriculture device supplies a nutrient solution to a plurality of nutriculture pots using a single spray nozzle, its construction can be noticeably simplified. Also, since a nutriculture pot moves periodically so that its location in a houseplant changes at any time, an amount of sunshine applied to a crop is uniformly maintained, allowing the crop to grow evenly.

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INTERNATIONAL SEARCH REPORT

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PCT/KR2002/02567**A. CLASSIFICATION OF SUBJECT MATTER****IPC7 A01G 31/02**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 A01G 9/00, A01G 9/02, A01G 9/14, A01G 9/24, A01G 25/00, A01G 31/02, A01M 7/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean Utility models and applications for Utility models since 1975Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKIPASS**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 52-112543 A(Hirose Osamu) 21 September 1977 See page 2, upper left column, line 6 - page 3, upper left column, line 2; claims 2, 3; figures 1 - 3	1, 3, 4
A	See the whole document	2, 5 - 11
X	KR 1993-7453 Y1(Byun, Bok Goo) 30 October 1993 See page 2, line 1 - line 18; claim 1; figures 2, 3	1, 3, 4
A	See the whole document	2, 5 - 11
X	US 5,555,676 A(John F. Lund) 17 September 1996 See column 4, line 8 - column 5, line 67; figure 1	2, 3
A	See the whole document	1, 4 - 11

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 1997-3409 Y1 (Park, Seung Jin) 17 April 1997 See page 2, line 2 - line 30; claim 1; figures 1 - 3	2 - 5
A	See the whole document	1, 6 - 11
A	JP 10-215701 A (Kano Seisausho KK) 18 August 1998 See the whole document	6 - 11
A	JP 55-135521 A (Osaka Fu) 22 October 1980 See the whole document	6 - 11
A	US 4,628,631 A (Aric Van Wingerden) 16 December 1986 See the whole document	6 - 11

INTERNATIONAL SEARCH REPORT
Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 52-112543 A	21-09-1977	NONE	
KR 1993-7453 Y1	30-10-1993	NONE	
KR 1997-3409 Y1	17-04-1997	NONE	
US 5,555,676 A	17-09-1996	NONE	
JP 10-215701 A	18-08-1998	NONE	
JP 55-135521 A	22-10-1980	NONE	
US 4,628,631 A	16-12-1986	NONE	